

**Developing Scope,
Schedules, and Cost
Estimates**

for

**Project Management
Plans**



Objective

In this session, you will gain an understanding of:

- Factors affecting the scope of the study**
- The value of a PMP**
- How to prepare a PMP**



PMP Development

- **Develop scopes of work**
- **Develop time and cost estimates**
- **Determine order of work**
- **Clearly articulate responsibilities and study outcomes**



Value of PMP

Allows the study manager to determine the

- Scope is appropriate**
- Costs and schedule are reasonable and appropriate**
- Level of analysis adequate for quality decision document**



How to Begin

1. Clearly define overall scope of study
2. Explain the phase of study
3. Ensure understand concept of increasing levels of data collection and analysis
4. Ensure understand problems and opportunities to be addressed



Factors Affecting Scope

- **Study type**
- **Study phase**
- **Study purpose**
- **Specific study location**
- **Sponsor concerns**
- **Stakeholder concerns**
- **Political sensitivity**



Study Type

- **Investigations**
- **Continuing Authorities Program**



Study Phase

1st Phase

Section 905(b) Analysis

Reconnaissance

Federal Interest Determination

2nd Phase

Feasibility

Detailed Project



First Phase

- Use existing data
- Use professional judgment
- Must have enough analysis to convince Corps/sponsor that 2nd phase is needed

Bottom line

Determine if there is at least one implementable alternative that's in the Federal interest and is supported by the sponsor

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Second Phase

- Level of detail and funding increases
- Collect data and perform more detailed analysis
- Consider areas of risk and compliance requirements
- Results in decision document with recommendation and project cost estimate

Bottom line

Analysis adequate to ensure quality and withstand scrutiny Corps credibility



Level of Detail

2 ways to determine the appropriate level detail:

- **Communication**
- **Making the team responsible**



Philosophy on Scope

**You don't need a
Mercedes...**



**... if a Moped will
do!!**



Next Steps

After scope is defined, get H&H Team Member to develop estimates for each activity.

- **Estimates should include:**
 - **Data collection needs**
 - **Analysis needs**
 - **Report preparation**
 - **Coordination**
 - **Management**
 - **Review**



Typical H&H Work Items in PMPs

Research Existing Data

Obtain Additional Data Required

Develop Existing Condition

Develop Without Project Condition

Develop Hydrology

Develop Hydraulic Data

Develop GIS model

Analyze With Project Alternatives

Develop Supporting Environmental Data

Geomorphic/River Mechanics Analysis



Typical H&H Work Items in PMPs

Hydraulic Design of Structures

Low Flow Design

Sedimentation Investigations

Develop Models

Collection/Analysis of Water/Sediment Samples

Water Quality Assessment

Water Budget

Groundwater Analysis

Interior Drainage Design



Typical H&H Work Items in PMPs

Risk and Uncertainty Analysis

Channel Stability Analysis

Coordination and Meetings

Branch Supervision

Prepare H&H Portion of Engineering Appendix

Final Report Documentation

Develop Scope, Time, and Cost Estimates for Next Phase

Value Engineering Study Participation

**District Quality
Control**



Examples

H&H Portions of PMPs



Next Steps

Once received input from all team members, roll up.

- Is the total time/cost reasonable?**
- Do activities reflect the proper scope?**
- Is the time/funding available adequate to cover the team members' request?**



Next Steps

- Usually, funds/time available not adequate to meet team members' requests.
- In that case, you'll have to negotiate.
- Make this a team activity.
- Seek to understand.
- May be necessary to seek additional funds.



Final Step

Once negotiations are complete, finalize initial PMP.



Summary

- **PMP development requires you think through the study process.**
- **Communication with the study team is key.**
- **PMP development is team responsibility.**
- **Study manager leads the team to ensure efficiency, effectiveness, and quality of study.**



Class Exercise

Kings Point Island, MS

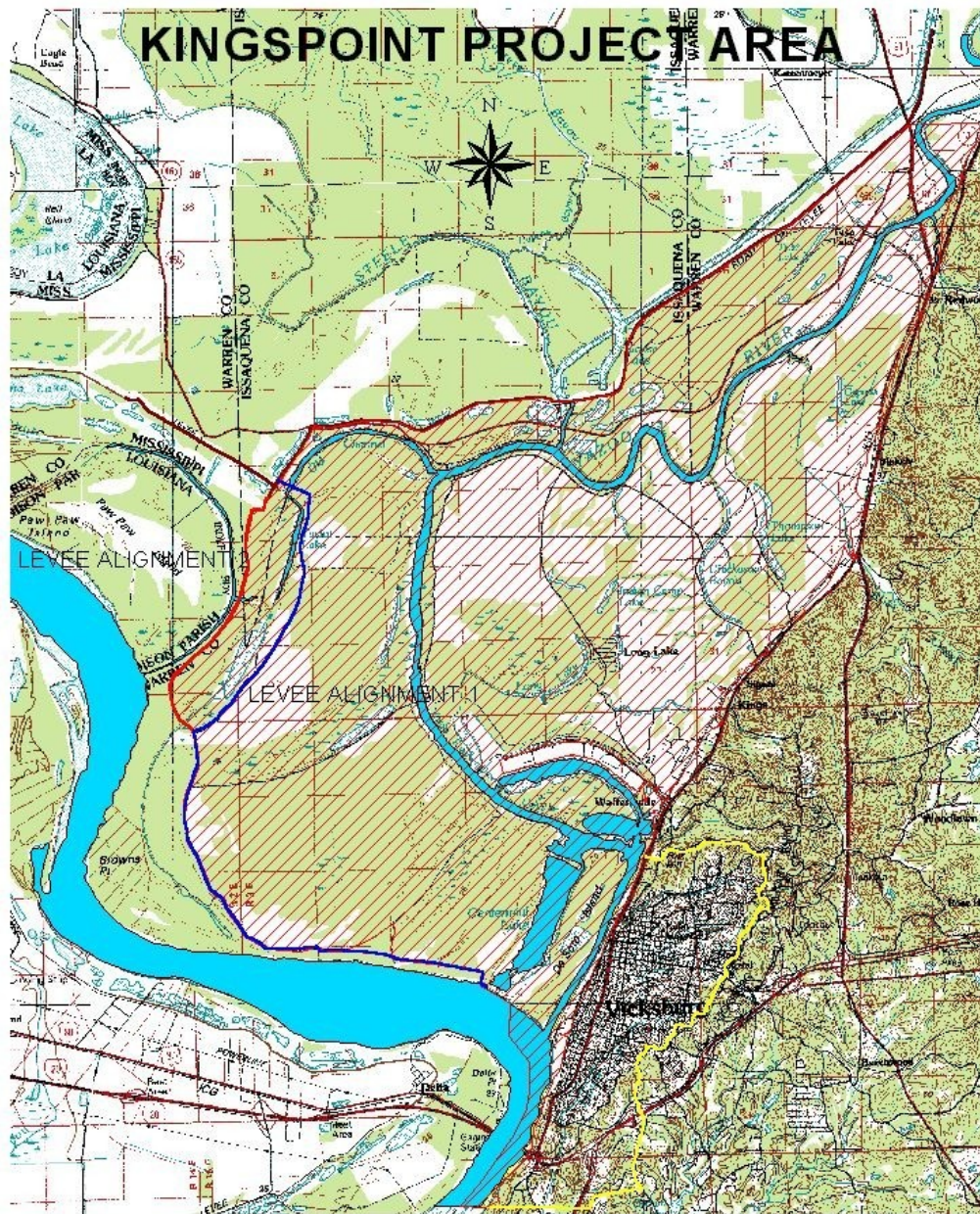


Kings Point Island, MS

- **Feasibility phase**
- **Section 205 study**
- **Area subject of past studies**
- **Data and analyses available**
- **Study area subject to backwater flooding from Mississippi River**
- **Study to address low-frequency levee of various heights**

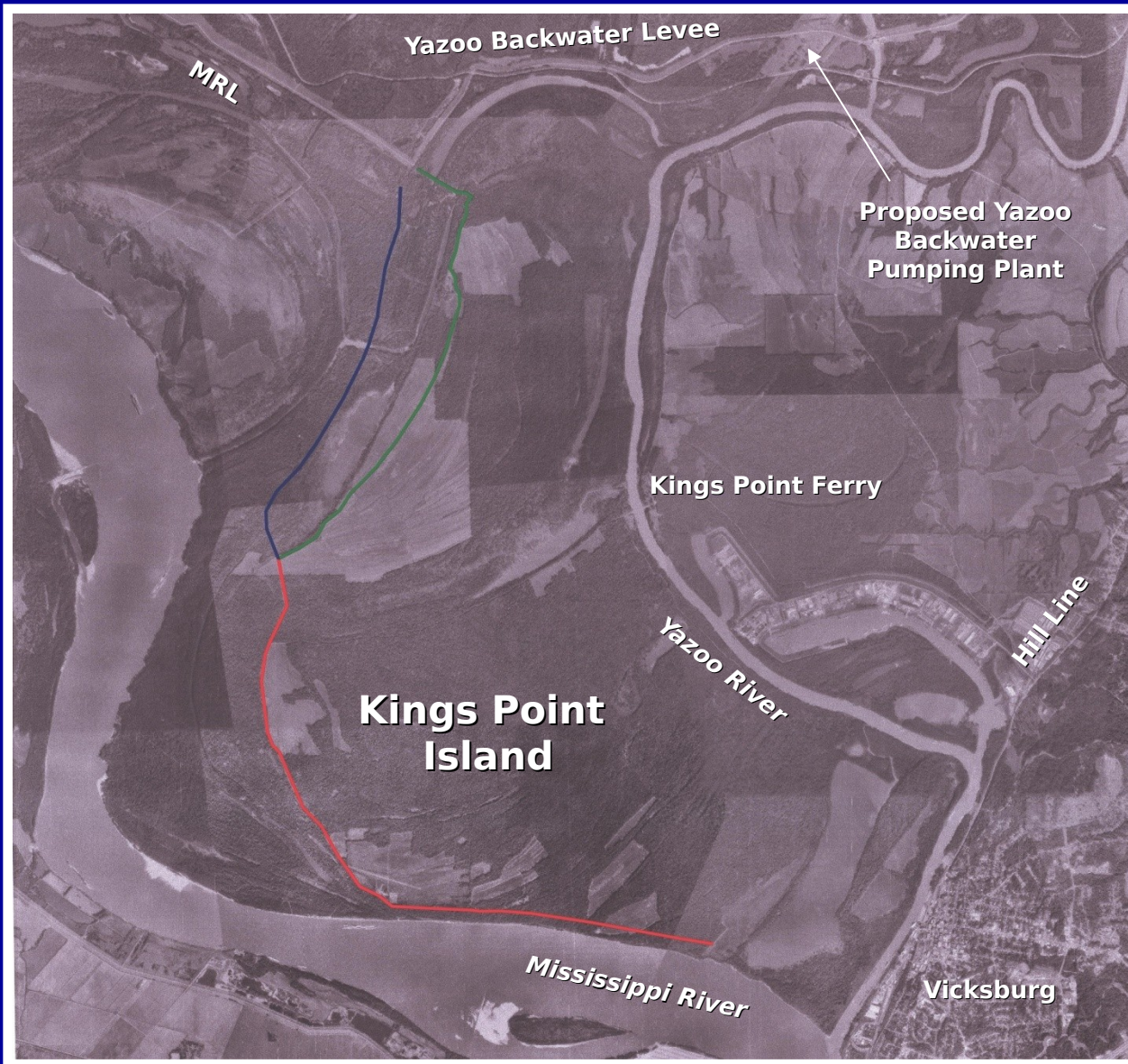


KINGSPPOINT PROJECT AREA



-  ALTERNATIVE 1 LEVEE ALIGNMENT
-  ALTERNATIVE 2 LEVEE ALIGNMENT
-  KINGSPPOINT PROJECT AREA
-  YEW LEVEE
-  RIVERS AND STREAMS
- CITY OF VICKSBURG, MS





Kings Point Island, MS



Class Exercise

Evaluate the initial H&H input to the King Point Island PMP and determine areas where cost appears inappropriate for scope.

Time: 15 minutes

